Citizen Science Strategic Workgroup

Vision and Strategy

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Graphic: Kathy Butterfield and Lea Shanley, Wilson Center Commons Lab

Recap on STPC and citizen science

1. EPA response sent to the OIG -- Concurred on all 4 recommendations.
2. Draft workgroup charge sent to STPC Aug 15 -- Synthesize OIG/NACEPT recommendations and implement key activities. Any additional comments due Sept 21.
3. Workgroup participants -- ORD, OAR, OGC, OLEM, OW, OEI, OP, OCSPP, Regions 1, 2, 3, 4, 5 & 7.
4. Proposed approach -- workgroup focus on strategy/vision and capacity building (recommendations 1 and 4).

   Consult with OEI (and others) on how to complete recommendation 2 on data management and quality assurance – STPC workgroup won't take the lead

   OEI, ORD, and Region 1 will follow through on Recommendation 3

Propose that workgroup focus on OIG recommendations 1 and 4

Workgroup products

Vision/Strategy -- Create EPA's strategic vision and objectives for managing the use of citizen science that links to EPA's strategic goals, identifies implementation roles/responsibilities, & plans for necessary staff/budget resources. *(Recommendation 1)*

Capacity Building -- Prepare guidance on EPA's use of citizen science, and expand EPA staff awareness of citizen science resources. *(Recommendation 4)*

A. **Finalize checklist** on administrative and legal factors for agency staff to consider when developing citizen science projects, and develop procedures that ensure compliance with steps in the checklist

B. **Plan training** for program/regional staff on how to effectively use citizen science

C. **Prepare communication and outreach strategy** that will includes materials that highlight project successes and how EPA has used citizen science results.

Explore with OEI how to implement OIG recommendations 2 and 3

Data management -- Assess how to improve EPA guidance and practices on citizen science data management and create an action plan for data management requirements for citizen science, including sharing and using data, data format/standards, and data testing/validation. *(Recommendation 2)*

QA handbook – ISSUE EPA QA handbook for citizen science and Implement an external and internal outreach and communications plan to help EPA, states and tribes, and citizen science groups to strengthen quality assurance practices *(Recommendation 3)*

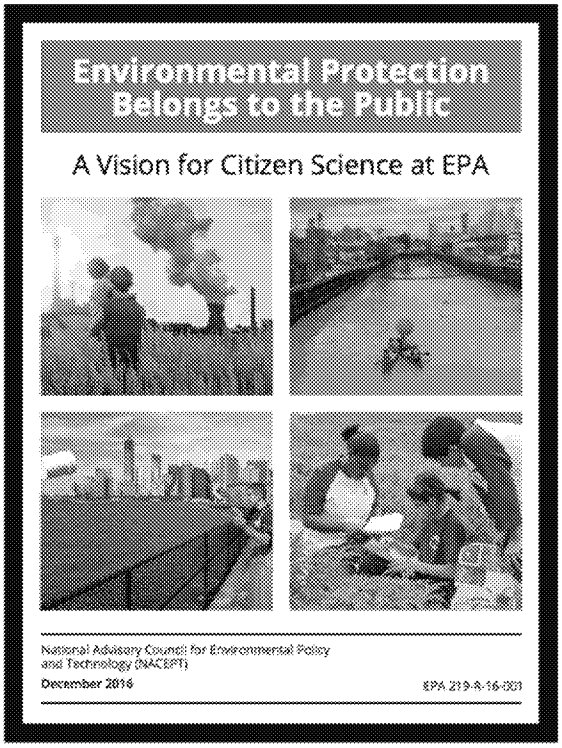
How to create a useful EPA vision and strategy?

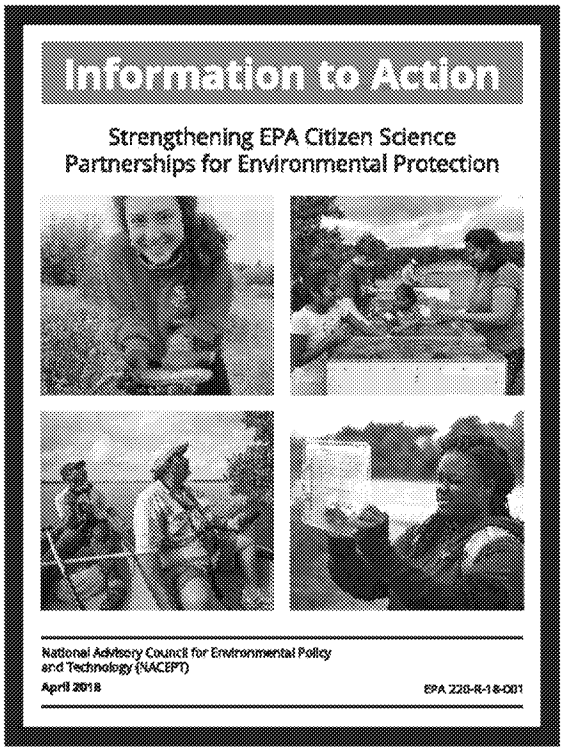
Today we'd like feedback on EPA's future vision for citizen science

1. What kind of product would be most valuable? (e.g. policy memo, roadmap, strategy, framework, etc.)
2. Should a strategy identify EPA priority areas (e.g. risk communication, disaster response) and/or environmental issues (e.g. drinking water)?
3. How do we link citizen science to EPA's strategic plan? (e.g. public engagement)
4. Other ideas?

Additional background material on the next few slides

Many Ideas in the NACEPT reports (2016, 2018)





Citizen science touches all EPA work

Community engagement: awareness, partnership, development, stakeholder engagement, public outreach

Case Studies:

Citizen Science in Great Smoky Mountains National Park

Environmental Health Organizing in El Paso, Texas

Condition indicator: media campaign, cross-sector stakeholder involvement, request for further study or involvement by government agency and/or research institutions

Case Studies:

Argentine/Turner Rail Yard Community Air Pollution Monitoring

Southeast Alaska Tribal Toxins Partnership

Management decisions: remediation, restoration, community solution enactment

Case Studies:

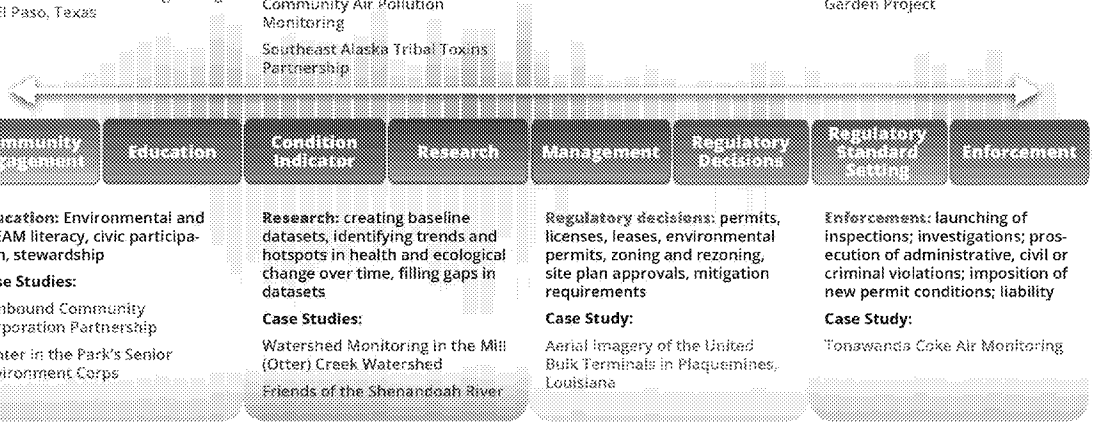
Canton Creek Snorkel Survey

Composting Food Waste with Fermentation

Regulatory standard setting: new mandatory and voluntary standards, development of best practices, revision of prior standards, changes in methodologies for measuring compliance status

Case Study:

The Dewey-Humboldt Arizona Garden Project



Education: Environmental and STEAM literacy, civic participation, stewardship

Case Studies:

Ironbound Community Corporation Partnership

Center in the Park's Senior Environment Corps

Research: creating baseline datasets, identifying trends and hotspots in health and ecological change over time, filling gaps in datasets

Case Studies:

Watershed Monitoring in the Mill (Otter) Creek Watershed

Friends of the Shenandoah River

Regulatory decisions: permits, licenses, leases, environmental permits, zoning and rezoning, site plan approvals, mitigation requirements

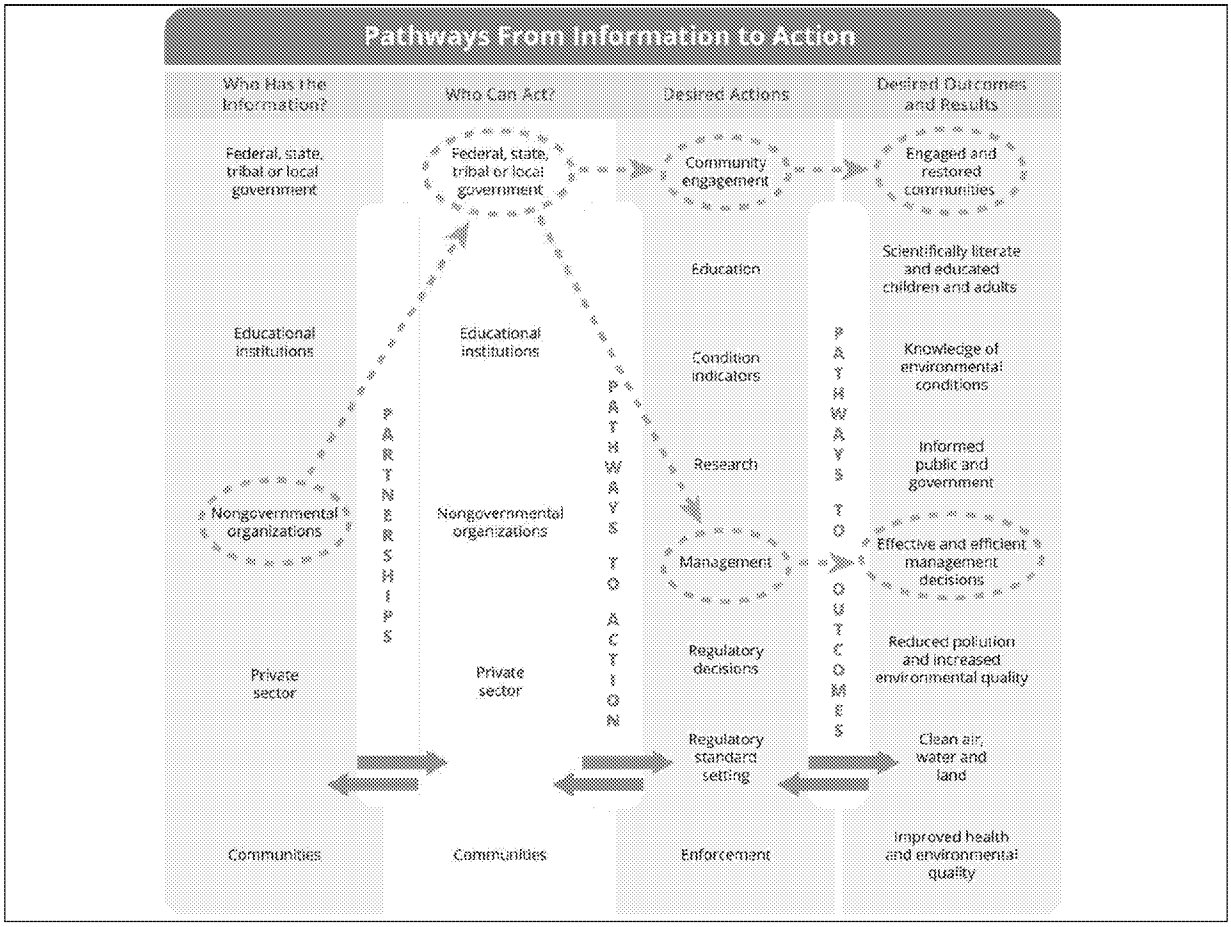
Case Study:

Aerial Imagery of the United Bulk Terminals in Plaquemines, Louisiana

Enforcement: launching of inspections; investigations; prosecution of administrative, civil or criminal violations; imposition of new permit conditions; liability

Case Study:

Tonawanda Coke Air Monitoring


Pathways From Information to Action
Who Has the Information?
Who Can Act?
Desired Actions
Desired Outcomes and Results
Federal, state, tribal or local government
Federal, state, tribal or local government
Community engagement
Engaged and restored communities
Education
Scientifically literate and educated children and adults
Educational institutions
Educational institutions
Condition indicators
Knowledge of environmental conditions
Research
Informed public and government
Nongovernmental organizations
Nongovernmental organizations
Management
Effective and efficient management decisions
Regulatory decisions
Reduced pollution and increased environmental quality
Private sector
Private sector
Regulatory standard setting
Clean air, water and land
Communities
Communities
Enforcement
Improved health and environmental quality
PARTNERSHIPS
PARTNERSHIPS TO ACTIONS
PATHWAYS TO OUTCOMES

OIG Identified Barriers to Using Citizen Science Results in EPA's Work

EPA staff identified identified five barriers:

1. Strategic communication and support/resources
2. Understanding/acceptance
3. Data quality
4. Data management
5. Technology

(from OIG survey of EPA staff – page 15 of draft report)

What kind of strategy document does EPA need?

Examples from other organizations

- USGS -- Partnering for Science: Proceedings of the US Geological Survey Workshop on Citizen Science
- NASA -- Improving Crowdsourcing and Citizen Science as Policy Mechanism for NASA
- US FWS -- Citizen Science Framework Review: Independent Science Review conducted for the US Fish and Wildlife Service
- Germany Citizen Science Strategy for Germany 2020